Digital multi-media data can easily be replicated and distributed. The rapid proliferation of internet raised concerns from content owners in terms of providing protection to their digital data. Image watermarking techniques are deployed to achieve these goals. In this paper, a more secured and novel color image watermarking scheme is proposed based on Singular value Decomposition (SVD). At first host image is partitioned into blocks of size $p \times p$ then find edges in each block by using various edge detection algorithms. A reference image is formed from the essential blocks whose values are less than or equal to the threshold. Embedding is done by modifying the $U$ and $V$ components of the reference image using $U$ and $V$ components of the watermark image. Segmentation of modified reference image is done and these segmented blocks are placed in their original positions to form a watermarked image. The watermarked reference image is formed from the positions of the selected blocks of watermarked image for extraction. The reverse process is executed to extract the singular values of the watermark from the watermarked reference image at hand. Analysis and
experimental results are showing that the proposed algorithm is performed well and is examined against various attacks to verify robustness.

References


Index Terms
Computer Science Image Processing

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Digital image watermarking, Singular Value Decomposition, PSNR, Robustness.